

THURSDAY, JULY 5, 1906.

## SOME RECENT PHILOSOPHY.

- (1) *The World's Desires, or The Results of Monism.* By Edgar A. Ashcroft. Pp. xii + 440. (London: Kegan Paul, Trench, Trübner and Co., Ltd., 1905.) Price 10s. 6d. net.
- (2) *The Scientific Temper in Religion, and Other Addresses.* By the Rev. P. N. Waggett. Pp. xii + 286. (London: Longmans, Green and Co., 1905.) Price 4s. 6d. net.
- (3) *The Reconstruction of Belief.* By W. H. Mallock. Pp. xii + 314. (London: Chapman and Hall, Ltd., 1905.) Price 12s. net.
- (4) *The Unit of Strife.* By E. K. Garrod. Pp. v + 194. (London: Longmans, Green and Co., 1905.) Price 3s. 6d. net.

(1) THE first of these volumes need not detain us. The work is dedicated, by permission, to Prof. Haeckel, and Mr. Ashcroft emulates his master in the range and discursiveness of his work. One would have thought that the "Riddle of the Universe" had settled, at least for a modern monist or realist, the majority of the topics here discussed—unless, indeed, the presence of two books in many ways so similar is a part of the riddle to which it is desirable to direct attention. We note that Mr. Ashcroft is able to tell us that "the system of Plato displays few living qualities."

(2) Mr. Waggett's work is one of the very best of its type, viz. of the books that seek to reconcile religion and science. The author's chief characteristics are his boldness and his anxiety that there should be no nervousness or hysteria among the religious-minded when their faith is confronted by the facts of science. "We ought to be positively alarmed at any appearance of unbroken agreement between religion and science." "There is not in the Bible ever any contrast between reason and faith. . . . In point of fact, faith is a kind of knowledge, and not only so, but it is the model and type of all sure knowledge." There is no theological interest, Mr. Waggett maintains, in weakening any particular theory about the physical world. In regard to the gulf between the organic and the inorganic—the classical treatment of which is a famous chapter in "Natural Law in the Spiritual World"—Mr. Waggett has already made terms even with Mr. Burke's radium experiments on sterilised bouillon, experiments on which, at the same time, he passes some acute criticisms. "Our faith would not be shaken if the gulf which lies for thought between organic and inorganic matter were for thought to be bridged; for it has never rested upon this or any other interval." Mr. Waggett is suggestive, too, in dealing with the problem of freedom, pointing out that without freedom there can be no error and no knowledge.

(3) A small part of Mr. Mallock's work was dealt with in the "Notes" columns of this journal

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when it appeared in the pages of the *Fortnightly Review*. Both the clerical and the philosophical attack on the negative conclusions of science have failed, Mr. Mallock declares. On the other hand, current science has no influence on practical life, and all that is best in modern civilisation is to be traced to the three beliefs of theism, viz. the belief in human freedom, in God, and in human immortality. But if the principles of science be only carried to their logical conclusion, it is clear that everything that now happens must have been pre-arranged in all previous molecular conditions of things, and that this pre-arrangement is due to mind and purpose. The last part of the work deals not unsuccessfully with the difficulties generally urged against a belief in the goodness of the Deity, and the author concludes his suggestive volume with forecasting the difficulties which Christianity has still to face—most of all, the difficulty of competing with a new religious eclecticism. Mr. Mallock is to be congratulated on a work which will undoubtedly add to his reputation.

(4) The strife of which the title of this work speaks is the struggle for existence. The title is the one ambiguity, perhaps the one defect, of what is, on the whole, a very clear and suggestive book. Its writer is concerned mainly with the problem that in man as compared with the lower creation "the quality of fitness to survive has in some way become modified"; "an agency has come into play which had not asserted itself on the same lines in the struggle for life before the appearance of man." What are the modification and the agency referred to? The answer seems to be that in man most clearly of all living things the unit in the struggle is not the individual, but the community, gradually expanding from the family to the tribe, the nation, the empire, and that in close correspondence with this development and expansion there has gone the increasing recognition of law and of some higher power, which is the kernel of all religion.

But this brief analysis almost does injustice to the closeness of the argument and the excellence of the illustrations by which the argument is enforced. The scientific analogies are not overdrawn—the great defect of some similar works—not even in one amusing passage where the author compares the walls of Babylon to the external defences of the crustacean, and points out that at a more advanced stage of development protection is given rather by moving masses acting on the offensive, just as for the most part the vertebrate organisms have abandoned the methods of the crustaceans and of insects protected by a horn-like covering.

One statement on p. 90 appears somewhat inexact. The author, showing how an ideal may lose the power of expansion by being enclosed and case-hardened, writes thus:—"Thus to the Israelite, while they retained their lofty monotheistic conception, Jehovah became the Deity exclusively of their own race. He was the Lord of Hosts who warred always on their side against their enemies." On the whole it seems wise to distinguish some things which

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are here confused, the *henotheism* (as it is called) of the earlier period of Jewish history which regarded Jehovah only as one among many Gods, the one who fought on the side of the Israelites, and who ought to be worshipped by them; and, contrasted with it, the later and truly monotheistic ideal of the prophets, which emphasised the *solity* of Jehovah. It would, at any rate, be difficult to harmonise our author's account with any of the accepted readings of Jewish history, traditional or critical. Part of the page ought probably to be re-written.

#### TIDES AND WAVES.

*A Practical Manual of Tides and Waves.* By W. H. Wheeler. Pp. viii+201. (London: Longmans, Green and Co., 1906.) Price 7s. 6d. net.

THE author of this book is a well-known civil engineer, whose practice has been largely concerned with works on the sea coast and tidal rivers. The practical side of the subject treated has consequently required and received from him long and close study; his intention in this volume has been "to give as practical an account as possible, free from all mathematical demonstration, of the action of the sun and moon in producing the tides: and of the physical causes by which the tides are affected after their generation, and of their propagation throughout the tidal waters of the earth." To these subjects the principal portion of the work is devoted; in a comparatively short section the author deals also with wave phenomena, in a manner likely to be useful to practising engineers, and not lacking in interest to a much wider circle of readers. Mr. Wheeler has given much time and thought to the production of the work, and the bibliography of his subjects (contained in an appendix) indicates a wide range of reading. In the text itself a great mass of useful information and data is summarised; this is supplemented by several valuable appendices giving results of tidal and wave observations as well as formulæ of use in engineering practice. A good index makes reference easy to the principal features of the book, and adds much to its value to readers for whom it has been chiefly designed. In one particular the scheme of the author is open to criticism: he has aimed at making "the subjects dealt with in the separate chapters complete," and this has involved some repetition of statement. Probably the explanation is that in some cases papers prepared for separate publication have been embodied in the book; but although the repetition (as the author says) may have "been avoided as much as possible," his scheme for completeness in individual chapters necessarily involves it, and in a book such as this is the result is not altogether satisfactory. This is a small drawback, however, to a work of considerable merit that will undoubtedly be welcomed by the engineering profession as a book of reference bringing together within small compass a great mass of useful information drawn from widely-scattered sources.

A historical sketch of the development of tidal science is first given ranging from the work of

Copernicus to that of Sir George Darwin and Mr. Moxly. Next come descriptions in popular language of "the making of the tides," the "propagation of the tidal wave," and the mean level of the sea and range of the tides. All these subjects are illustrated by facts and figures drawn from actual observations. The effect of wind and atmospheric pressure on the tides is considered at some length, as a matter of considerable importance to engineers. Mr. Wheeler has endeavoured to formulate a rule as to variations to be expected with a given force of wind and height of tide; and considers that roughly "the effect of a moderate gale is to raise or lower the tide according to its direction as many inches as it would rise in feet under normal conditions." He gives some striking instances of abnormal tides due to gales of long continuance, the heights attained in some cases exceeding the tide-table heights by six to eight feet. In December, 1904, for example, at Grimsby, the morning tide was raised nearly seven feet, and at Hull, as well as on the Thames, about five feet above normal level by a heavy gale from the north-west. An investigation is also made of the recorded observations of variations in tides accompanying variations in atmospheric pressure, and the conclusion is reached that "it is not possible to lay down any general law applying to all parts of tidal waters." Mr. Wheeler considers that "although variation in pressure may be a primary cause of the alteration in the height of tides . . . yet the wind is a safer and more ready guide for the immediate purpose of navigation."

The chapter dealing with "River Tides" is one of the most interesting in the book, and from the nature of the case is chiefly based on actual observations. Mr. Wheeler traces the progress of the ocean tidal wave up a river channel, and shows how the distance to which the wave action reaches depends on the condition of the channel and the depth of the low-water stream. He describes the "ponding back" of the current in the river by the advance of the tidal wave, and demonstrates the necessity for the duration of the flood tide in rivers being less than that of the ebb. The phenomena of "double flow" are explained, and a distinction made between the propagation of a tidal wave up a river and the tidal current. These movements of river water are accompanied by transport of material carried in suspension, and from the engineering side this is a question of great importance which Mr. Wheeler discusses fully.

Closely related to tidal currents are tidal "bores," which occur in certain rivers. These are very fully described by the author, who summarises the conditions necessary for the full development of a bore as follows:—A considerable rise of tide, a converging channel with a rising bed, the depth of water decreasing as the channel is approached, or a sand bar over which there is not sufficient depth of water to admit of the passage of the approaching tidal wave. Under these conditions, in place of a gradual rise of the water at the entrance to the river, the arrival of the tide is accompanied by a breaking wave with a crest several feet in height, which when formed advances rapidly up the channel. In the Tsien-Tang-Kiang River,